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CI 15. (Amended) A plasma etching process comprising:
forming a masking layer over a substrate;
patterning the masking layer to form openings therein;
first etching material beneath the masking layer through the openings, the
first etching extending the openings to outwardly expose a material comprising
silicon at a base of the openings;
after the first etching, removing the masking layer from the substrate; and
after the removing and before subsequently depositing any material over
the substrate, plasma etching the substrate at a temperature of at least 400°C.

16. The plasma etching process of claim 15 wherein the plasma
comprises oxygen.

17. The plasma etching process of claim 15 wherein the plasma
comprises hydrogen.

18. The plasma etching process of claim 17 wherein the hydrogen
containing plasma is derived at least in part from H_2 .

19. The plasma etching process of claim 17 wherein the hydrogen
containing plasma is derived at least in part from NH_3 .

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20. The plasma etching process of claim 15 wherein the plasma is predominately comprised of hydrogen.

21. The plasma etching process of claim 15 wherein the temperature is at least 600°C.

22. The plasma etching process of claim 15 wherein the first etching leaves a residue at least partially over the substrate, the plasma etching removing the residue from the substrate.

23. The plasma etching process of claim 15 comprising after the removing and before subsequently depositing any material over the substrate, conducting at least two plasma etchings using different reactive gas chemistries, one of the at least two plasma etchings being said plasma etching at a temperature of at least 400°C, another of the at least two plasma etchings being subsequent to the one and using a gas chemistry comprising chlorine.

24. The plasma etching process of claim 23 wherein the another plasma etching is conducted at a temperature of at least 400°C.

35. (Amended) A plasma etching process comprising:

forming a photoresist layer over a semiconductor substrate;

patterning the photoresist layer to form openings therethrough;

C2 dry etching a first layer immediately beneath the photoresist layer through the openings, the dry etching extending the openings to expose a substrate material comprising silicon at a base surface of the openings and forming a carbon containing polymer residue at least partially over the substrate material at the base of the openings during the dry etching;

after the dry etching, removing the photoresist layer from the substrate;
and

after the removing and before subsequently depositing any material over the substrate, plasma etching the carbon containing polymer residue from the substrate substantially selectively relative to the first layer.

36. The plasma etching process of claim 35 wherein the plasma etching is conducted at a temperature of at least 400°C.

37. The plasma etching process of claim 35 wherein the plasma etching is conducted at a temperature of at least 600°C.

38. The plasma etching process of claim 35 wherein the plasma comprises oxygen.

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39. The plasma etching process of claim 35 wherein the plasma comprises hydrogen.

40. The plasma etching process of claim 39 wherein the plasma is derived at least in part from H_2 .

41. The plasma etching process of claim 39 wherein the plasma is derived at least in part from NH_3 .